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Begin

REEL
538

SOLC, J.

AUTHORS: Hybek, K., Ing., Šolc, J., Ing. and Zezulová, M., Ing.   CZECH/34-59-4-3/18

TITLE: Economical Cr-Mn-Ni-N Alloy Austenitic Stainless Steels
             (Úsporné austenitické nerezavějící ocele Cr-Mn-Ni-N)

PERIODICAL: Hutnické Listy, 1959, Nr 4, pp 287 - 297
             (Czechoslovakia)

ABSTRACT: On the basis of literary data, two laboratory series
             of melts of Cr-Mn-Ni-N steels were produced. The results
             obtained with the steels from the first laboratory series
             of melts were not encouraging enough to recommend use
             of such steel as an equivalent substitute for Cr-Ni steel.
             By evaluating the results of ten 100 kg laboratory melts
             and supplementing these with information gained on the
             influence of the quantity of nitrogen on the structure
             from tests with 10 kg melts, the authors have worked out
             the following recommendation for the chemical composition:
             max 0.12% C, 8-10% Mn, max 0.60% Si, 17-19% Cr, 4.0-5.0% Ni,
             0.20-0.30% N, max 0.035% S, max 0.035% P. According to
             this recommendation, two 3-ton heats were produced under
             shop conditions and these confirmed the correctness
             of the assumptions made by the authors. The produced steel
Card1/3   had a stable austenitic structure not only at normal

CZECH/34- 59-4-3/18

Economical Cr-Mn-Ni-N Alloy Austenitic Stainless Steels

that it is a promising substitute for ordinary Cr-Ni
steels in various branches of industry, for instance,
the building industry, automobile and aircraft industries,
etc. There are 18 figures, 7 tables and 18 references,
4 of which are German, 9 English and 5 Czechoslovakian.

ASSOCIATION: Výzkumný ústav hutnictví železa, Praha
               (Ferrous Metallurgy Research Institute, Prague)

SUBMITTED: January 9, 1959

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PHASE I BOOK EXPLOITATION   SOV/5799

Unksov, Ye.P., Doctor of Technical Sciences, Professor, Ed.

Sovremennoye sostoyaniye kuznechno-shtampovochnogo proizvodstva (Present State
    of the Pressworking of Metals) [Moscow] Mashgiz, 1961. 434 p. 5000 copies
    printed.

Ed. of Publishing House: A.I. Sirotin; Tech. Ed.: B.I. Model'; Managing Ed. for
    Literature on the Hot Working of Metals: S.Ya. Golovin, Engineer.

Title: Kuznechno-shtampovochnoye proizvodstvo v SSSR (The Pressworking of Metals
    in the USSR) by: A.V. Altykis, D.I. Berezhkovskiy, V.F. Volkovitskiy, I.I.
    Girsh (deceased), L.D. Gol'man, S.P. Granovskiy, N.S. Dobrinskiy, A.I. Zinin,
    S. L. Zlotnikov, A.I. Kagalovskiy, P.V. Lobachev, V.N. Martynov, Ye.N. Mosh-
    nin, G.A. Navrotskiy, Ya.M. Okhrimenko, G.Ya. Rovinskiy, Ye.A. Stosha, Yu.L.
    Rozhdestvenskiy, N.V. Tikhomirov, Ye.P. Unksov, V.F. Shcheglov, and L.A. Shof-
    man; Eds: Ye.P. Unksov, Doctor of Technical Sciences, Professor, and B.V. Roza-
    nov.

Title: Kuznechno-shtampovochnoye proizvodstvo v ChSSR (The Pressworking of Metals
    in the Czechoslovak SR) by: S. Burda, F. Hrazdil, F. Drastík, F. Zlatohlávek

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Present State of the (Cont.)   SOV/5799

Z. Kejval, V. Krauz, F. Kupka, F. Mejer, K. Marvan, J. Novák, J. Odehnal,
K. Paul, B. Sommer, M. Honz, J. Cástka, V. Sindelár, and J. Sole; Eds.:
A. Hejepsa and M. Vlk.

PURPOSE: This book is intended for engineers and scientific personnel concerned
with the pressworking of metals.

COVERAGE: Published jointly by Mashgiz and SNTL, the book discusses the present
state of the pressworking of metals in the USSR and the Czechoslovak Socialist
Republic. Chapters were written by both Soviet and Czechoslovak writers. No
personalities are mentioned. There are 129 references: 98 Soviet, 16 English,
8 German, 5 Czech, and 2 French.

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                    PRESSWORKING IN THE USSR

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    of Metals [Ye.P. Unksov]   13

Ch. III. Die Forging on Forging Presses [V.F. Volkovitskiy]   22

Ch. IV. Die Forging on Horizontal Upsetters [I.I. Girsh, deceased]   31

Ch. V. Die Forging on Drop Hammers and [Power-Screw] Percussion Presses
        [Ya. M. Okhrimenko and V.F. Shcheglov]   41

Ch. VI. The Making of Forgings and Shaped Blanks in Forging Rolls [V.N.
        Martynov]   58

Ch. VII. Die-Sizing in Squeeze-Forming Presses [V.F. Volkovitskiy]   77

Ch. VIII. Rolling-Out Annular Blanks [Yu.L. Rozhdestvenskiy]   82

Ch. IX. The Manufacture of Metal Hardware on Pressworking Automatics
        [G.A. Navrotskiy]   95

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Present State of the (Cont.)   SOV/5799

Ch. VIII. Scientific Research Work in the Field of Cold Impact
           Forging of Metals [F. Hrádil, Plant imeni Šmeral, Brno]   355

Ch. IX.   Experience in the Cold Impact Forging of Nonferrous Metal,
           [K. Marvan and J. Odehnal, Plant Tesla, National Enterprise,
           Hloubětín, and V. Šindelář, Scientific Research Institute of
           Vacuum Electrical Engineering, Prague]   381

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           Bodies at the Automobile Plant "National Enterprise (AZNP)
           Mladá Boleslav" [Z. Kejval, AZNP, Mladá Boleslav]   397

Ch. XI.   The Mechanization of Obsolete Enterprises as a Means of In-
           creasing Labor Productivity [B.Samor, Vítkovice Metallurgi-
           cal Plant imeni Klement Gottwald, Ostrava]   410

Ch. XII.   The Initial Pressworking of FeAl Alloys and Large FeCrAl
           Castings [F. Major and J. Šolc, Scientific Research Insti-
           tute of Iron, Prague].

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Z/034/61/000/003/002/011
E073/E535

AUTHORS: Šolc, J., Engineer, Zezulová, M., Engineer and
            Zdeněk, Zd., Engineer

TITLE: Development of Non-ageing, Deep Drawing Steels for
            Heavy Duty Presslings

PERIODICAL: Hutnické listy, 1961, No.3, pp.159-168

TEXT: The problems of manufacturing deep drawing sheets for
automobile bodies have been solved and a vanadium stabilized steel
has been developed for this purpose (Refs. 1 and 2). At present
VÚHŽ, jointly with SONP, Kladno is engaged in developing an ageing-
resistant deep drawing steel of a higher strength and in this paper
a part of the obtained results are published. Due to economic
considerations and practical manufacturing considerations, it was
decided to manufacture the experimental steel in an oxygen blast
converter. Current production of steel in oxygen blast converters
will be possible in Czechoslovakia only towards the end of the
Third Five Year Plan period; however, the authors considered it
advisable to verify the possibilities of manufacture of an experi-
mental 5-ton unit and to determine the optimum chemical composition
which would give the desired results. The specification for the
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Development of Non-ageing, Deep ...   Z/034/61/000/003/002/011
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chemical composition was worked out on the basis of the Austrian
"Altank" steel manufactured by the firm Voëst, the composition of
which approaches most closely the desired composition, which was
chosen so as to obtain a steel with a minimum strength of 36 and
a maximum strength of 42 kg/mm^2. Thus, the chosen chemical
composition is as follows: 0.10 to 0.12% C, 0.30 to 0.45% Mn,
0.05 to 0.10% Si, 0.07 to 0.10% Al, max.0.030% P, max.0.030% S.
The range and method of forming was governed by the available
equipment and also by the desire to manufacture material for
practical pressing tests. The required shapes of the sheets did
not allow cold rolling; therefore, the experimental material was
manufactured primarily as hot rolled sheet and in this stage of the
investigations cold rolling was done only to get some qualitative
information. The steel was manufactured in a basic 5 m^3
converter lined with tar-dolomite refractory. The oxygen was
fed in from the top through a water-cooled nozzle of 20 mm aperture
diameter. Two heats were produced, both from open hearth pig, of
a composition as given in Table 3.

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Development of Non-ageing, Deep ...   Z/034/61/000/003/002/011
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results have shown that an oxygen blast converter is suitable for
manufacturing high strength deep drawing steels which are
resistant to ageing; a non-ageing steel with satisfactory mechan-
ical properties was obtained. It is emphasized that the results
are those of a single heat and have to be verified by further
experiments. The problems cannot be considered fully solved and
further experiments have to be made on cold rolled sheets. The
mechanical properties of the tested material approached those
determined for the Austrian steel "Altank", which was included
in the experiments for the purpose of comparison.
There are 21 figures, 9 tables and 9 references: 4 Czech and
5 non-Czech.

ASSOCIATIONS: VUHZ, Prague (Šolc and Zezulová) and
                 SONP, Kladno (Zdeněk)

SUBMITTED: November 18, 1960

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Development of Non-ageing, Deep ...   Z/034/61/000/003/002/011
                                        E073/E535

Table 3

	C	Mn	Si	P	S
			in %		
K 228	3.68	1.60	0.94	0.208	0.074
K 229	3.68	1.68	0.69	0.176	0.086

The produced steel was then used for rolling 1.5, 2, 2.5 and 3 mm
thick sheets. These were subjected to metallographic investigation,
aimed primarily at determining the grain size,with comparative
investigations made on specimens of the Austrian steel "Altank".
Furthermore, the produced sheets were used for determining the
mechanical properties after various heat treatment conditions.
Finally, practical tests were made with the experimental sheets
to establish their deep drawing behaviour. The sheets were used
experimentally for manufacturing pressed automobile body parts
for which the scrap rate under normal manufacturing conditions is
highest. A few photographs of such drawn components are
included. Wherever possible foreign manufactured sheet was also
included in the experiments for the purpose of comparison. The

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Z/034/61/000/005/005/010
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18.5100

AUTHOR: Šolc, J.

TITLE: Determination of the appropriate technology of cold
               rolling of 1000 mm wide strip

PERIODICAL: Hutnické listy, 1961, No.5, p.362

TEXT: The research report deals with the cold rolling
technology of strips from all the applicable high grade steels
listed in the Czechoslovak standard specifications. About 100
types of steel have been analysed. The report is based on
published data and also on knowledge gained from all the Czecho-
slovak plants who cold roll strip or produce and heat treat the
particular steels. The report deals with the properties of hot
and cold rolled strip, the basic and intermediate heat treatment,
and heat treatment of cold rolled strip and also with the rolling
and surface treatment of strip. In a short summary, up-to-date
manufacturing equipment is described, recommending a technology,
and also manufacturing specifications applicable to the enumerated
equipment. Thereby, the assumed quantity to be manufactured and
strip dimensions are taken into consideration. A separate part

/B

Card 1/2

89417
Z/032/61/011/004/002/004
E073 'E335

18.1130

AUTHORS: Hýbek, K., Šolc, J. and Zezulová, M., Engineers

TITLE: State of Development of CrMnNiN-type Austenitic
Economy Steels

PERIODICAL: Strojírenství, 1961, Vol. 11, No. 4,
pp. 275 - 282

TEXT: The main aim of development of economy steels of this
type was to save or completely substitute Ni. A break-through
was achived only after combining successfully the use of Mn
with N. The combined used of these two elements enabled
developing CrMnNiN steels which are suitable as a replacement
for unstabilised CrNi steel (ČSN 17 241). Steels of this
type are the US steels AISI 201 and 202 and the CrMnN steel
described in an article in the 1958, No. 8, issue of this
journal, which has so far not been included in the Czech standard
specifications. In this paper the results are described of
the development of economy austenitic steels which were
achieved at VÚHZ with the cooperation of VZKG and TZ VŘSR
Stalingrad Works. The problem was investigated independently
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State of Development ...

by K. Protiva (Ref. 4 - Hutník, 1959, Vol.9, No. 12, pp.
396-399) (SONP, Kladno) in cooperation with SVÚMT, Prague
(Ref. 6 - B. Potůček: Economy Stainless CrNiMnN austenitic
Steels MTS - Technical Report 201, Prague, 1960). The
results are described only briefly, except for the properties
of the steel and the experience gained during fabrication,
which are described in greater detail. In preliminary
experiments it was established that the chemical composition
for production heats should be as follows: max. 0.12% C;
8-10% Mn; 17-19% Cr; 4-5% Ni; max. 0.035% S; max. 0.035% P
and 0.20-0.30% N. Two 3-ton heats were produced, one with
a Ni content at the lower limit, the other at the higher
limit, That the metallurgical process was satisfactory was
proved by the process of casting and solidification during
which the steel was not effervescent. That the correct
forming technology was used was proved by the fact that for
the selected sheet thicknesses of 1 and 2.4 mm the surface
of the sheets was perfect. Thereby, the fact that the

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austenitic structure was stable even at higher forming
temperatures was of great help. Metallographic tests
showed that steel from both heats had a purely austenitic
structure, both in the as-rolled state as well as after
austenisation annealing at 1 030 to 1 050 °C, the optimum
austenisation temperature being 1 000 to 1 100 °C. Even at
the higher limit there was no grain coarsening. Corrosion
tests gave good results and therefore this steel is
recommended for consumer goods, i.e. kitchenware, dairy
equipment and other food-industry applications as well as
for components which are exposed to severe atmospheric
conditions (for instance, railway carriages). The results
of the mechanical tests are summarised in Tables 2, 3, 4 and
5. Table 2 gives the mechanical properties of 9 sheets from
both heats, taken at random; the further tables indicate
the effect of heat-treatment. The developed steel is fully
equivalent to similar foreign steel and is superior as
regards ductility. Weldability in the case of oxyacetylene,
arc and argon-arc welding is good. The machineability is
classified as 11b. It is particularly favourable to
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State of Development ...

machine this material at elevated temperatures. However, the
steel has to be protected against work hardening by pressure,
bending, etc; if these peculiarities are taken into consid-
eration, no difficulty will arise in machining this steel.
The steel can be very satisfactorily polished both mechanically
and by electrolytic methods. The forming properties are very
good. In experiments with good-quality equipment reduction
in the cold state of up to 90% without intermediate annealing
was achieved, which means that from a sheet of 2.5 mm
thickness a sheet of only 0.25 mm can be produced without
intermediate annealing. Deep-drawing tests in producing pots
and other kitchenware and also plates of a pasteurising
column showed that the steel had very good forming properties.
No difficulties arose in cutting, rolling, austenisation
annealing, grinding and polishing of products from this steel.
The main advantage of the recently developed CrMnNiN economy
steel is the fact that its introduction into industry does not
require any considerable change compared with the manufacture
of current types of stainless steels, although slight changes

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in technology will be required in view of the higher strength
values of this steel. From the technological point of view,
the steel will also have a number of advantages. It was
confirmed experimentally that the austenitic structure remained
stable up to 1 260 $^{\circ}$C, even if the Ni content was at the
lowest limit. If the content of the austenite-forming
elements was at the upper limit no two-phase structure
developed even after two hours heating at 1 300 $^{\circ}$C. On
exceeding the austenisation temperature, for which the range
1 030 to 1 050 $^{\circ}$C/min/air (the time was determined for sheet)
was chosen. in view of the increased tendency to scale-
formation for steels containing Mn, no undesirable change
in the mechanical properties (particularly in the decisive
property of elongation) occurred at temperatures up to 1 100 $^{\circ}$C.
Certain properties of this new steel justify the assumption
that in many cases it will be not only a good substitute for
the steel ČSN 17 241 and 17 242 but for certain applications
it will even be superior to these steels. For instance, the
higher strength values will enable maintaining a higher

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State of Development ....

polish and a better resistance to abrasive wear. Furthermore, the higher strength of the material will enable reducing the weight by using thinner and lighter sheets. On the other hand, due to the higher strength values, manual forming operations of thicker sheets will be more difficult. The results of tests of the influence of cold-forming indicate an entirely new and wide field of application for these steels as a material for substituting   special hardenable austenitic steels. Introduction of this stainless economy steel with only half the usual nickel content as compared with current types of CrNi steel is of very considerable economic importance. This steel is now being manufactured by SONP, Kladno and VŽKG, Ostrava,and the Trinecké zelezárny VŘSR (Trinec Irons works VŘSR) also intend to start manufacturing this steel. A specification is being drafted for the manufacture of a CrMnNiN steel (CSN 17 460), with the following proposed composition: max. 0.12% C, 7.5-10.5% Mn, max. 1.00% Si, 16.0-19.0% Cr, 4.0-6.0% Ni, 0.15%-0.30% N, max. 0.060% P and max. 0.035% S.

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Z/032/61/011/004/002/004

State of Developmen: E073/E335

There are 9 figures, 5 table: and 6 references: 5 Czech and
1 non-Czech.

ASSOCIATION: Výzkumný ústav hutnictví železa, Praha
               (Research Institute for Ferrous Metals, Prague)

(Abstractor's note: key to Tables 3, 4 and 5 on card 12/12)

Card 7/12

SOLC, Juraj, inz., CSc.; PALKA, Milan, inz.

Load tests of an anchored V-shaped supporting pillar for 400 kv
lines. Energetika Cz 14 no.2:60-62 F'64

1. Slovenska vysoka skola technicka, Bratislava (for Solc).
2. Elektrovod, n.p., Bratislava (for Palka).

SOLC, Jan, inz.; STANKA, Karel, inz. dr.

Conditions of the research and production of tools for ex-
trusion of nonferrous metals in Czechoslovakia. Hut listy
19 no.5:337-349   My '64

1. Research Institute of Iron Metallurgy, Prague.

Dub, on, ins.

Unification of the chemical, radiochemical, biologic, and microbiologic methods of water analysis in the member states of the Council for Mutual Economic Assistance. Vodni hosp 15 no.2:54 '65.

L 62722-65   EWP(h)/EWP(1)
ACCESSION NR: AP5021464   CZ/0034/64/000/011/0833/0833

AUTHOR: Pinc, J.; Solc, J. (Engineer)

TITLE: Apparatus for turning over of flat objects, such as metal sheets, belts, and plates

SOURCE: Hutnicke listy, no. 11, 1964, 833

TOPIC TAGS: metallurgic machinery

ABSTRACT: The article describes Czechoslovak Patent Application Class 7a, 25, PV 6901-63, dated 14th. December 1963. The apparatus consists of jointed levers and is suitable for use in metallurgical plants and welding workshops. Orig. art. has 1 figure.

ASSOCIATION: none

SUBMITTED: 14Dec63   ENCL: 00   SUB CODE: IE

NO REF SOV: 000   OTHER: 000   JPRS

Card 1/1

L 10491-66   BC

ACC NR: AP6003540   SOURCE CODE: CZ/0030/65/000/001/0029/0032

AUTHOR: Solc, J. (Engineer, Candidate of sciences)

ORG: Department of Geodesy SVST (Katedra geodezie SVST)

TITLE: Accuracy of staff section reading with a cross-wire range-finder

SOURCE: Jemna mechanika a optika, no.1, 1965, 29-32

TOPIC TAGS: geodetic instrument, geodesy

ABSTRACT: A relation is derived for the accuracy of readings. According to the author the most suitable relation is a linear function. The equation of adjustment is derived empirically. Orig. art. has: 6 figures and 16 formulas. /JPRS/

SUB CODE: 08 / SUBM DATE: 10Sep64 / ORIG REF: 003 / OTH REF: 005

Card 1/1   UDC: 528.514

SOLC, J.; SOLC, J.

Experience with film dosimeters. Cesk. radiol. 19 no.6:415-418
F '65.

1. Rentgenologicke oddeleni nemocnice v Semilech; Dioptra, n.p.,
Turnov.

L 34469-66

ACC NR: AP6026242   SOURCE CODE: CZ/0024/65/000/007/0173/0175

AUTHOR: Solc, Juraj (Engineer; Candidate of sciences)

ORG: Department of Geodesy, SVST, Bratislava (Katedra geodezie SVST)

TITLE: Error of the multiplication constant of a wire telemeter

SOURCE: Geodeticky a kartograficky obzor, no. 7, 1965, 173-175

TOPIC TAGS: telemetry equipment, theodolite

ABSTRACT: The article reports the results of tests of 20 new theodolites to determine the difference between the rated and actual values of the multiplication constant. Significant differences were found. The need to check each new telemeter before using it for measurements is pointed out. This paper was presented by Engineer, Doctor Karel Kucera, VUGTK, Prague. Orig. art. has: 3 figures, 8 formulas and 2 tables. [JPRS: 32,859]

SUB CODE: 08, 09 / SUBM DATE: none / ORIG REF: 004 / SOV REF: 001
OTH REF: 003

Card 1/1   UDC: 528.088.22:531.719.24

SOLC, J., MUDr.

Deficiencies in selection of patients for the treatment in state-
owned spas. Cesk. zdravot. 4 no.10:599-603 Oct 56.

1. Minsterstvo zdravotnictvi, hlavni sprava odb. lec. vistavu
lazni a zridel.
        (BALNEOLOGY,
            selection of patients in state-owned spas in Czech. (Cz))

FISAROVA, M.; MACHULA, Fr.; SOLC, J.

Neurological sequelae of severe diarrheas in infants. Cesk. pediat.
17 no.10:874-880 0 '62.

1. Neurologicka klikika lekarske fakulty Karlovy university v Plzni,
prednosta prof. dr. V. Pitha Detska klinika lekarske fakulty Karlovy
university v Plzni, prednosta doc. dr. J. Lukes.
        (DIARRHEA INFANTILE)   (PARALYSIS)   (HYDROCEPHALUS)

SOLC, J.

"Automatic sharpening in reproduction dark-rooms." Technicka Praca, Bratislava, Vol. 6, No. 1, Jan. 1954, p. 54.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.C.

Solc J.

CZECHOSLOVAKIA/Optics - Optical Technology   K-4

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 11659

Author   : Solc J.
Inst   : Higher Institute for Minerals, Tarnuv, Czechoslovakia
Title   : Increase of Contrast in Microscopes

Orig Pub : Jemna mech. a opt., 1956, 1, No 4, 125-126

Abstract : Description of a principle of a new device for increasing the
           contrast in microscopes. In the rear focus of the microob-
           jective is installed a plate direct light and passes the
           light diffracted by the microscopic objectives through ring-
           like differently colored bands.

Card   : 1/1

SOLC, J.

"Hungarian optical plants."

JEMNA MECHANIKA A OPTIKA. Praha, Czechoslovakia, Vol. 4, February, 1959.

Monthly List of East European Accessions(EEAI), LC, Vol. 8, No. 8, September 1959.
Unclas.

SOLC, Juraj, inz.

The test of precision and economy of coordination nonogram.
Geod kart obzor 2 no.3:45-48 Mr '56.

1. Slovenska vysoka skola technicka, Bra' slava.

PALKA, Milan,inz.; SOLC, Juraj, inz.

Construction of electric lines in high mountains. Geod kart
obzor 8 no.2:33-35 F '62.

1. Elektrovod, n.p., Bratislava (for Palka). 2. Katedra geodezie,
Slovenska vysoka skola technicka, Bratislava (for Sloc).

BOJSA, Miroslav; KOHUT, Frantisek, ins.; SOLC, Juraj, ins.

Mechanical tests of a new pole for extra-high-voltage lines.
Energetika Cz 12 no.12:646-647 D '62.

SOLC, J.; Technicka spoluprace: KRAFTOVA, I.

Excretion of ketone bodies in the urine of children. Cesk.
pediat 18 no.6:481-486 Je '63.

1. Detska klinika lekarske fakulty KU v Plzni, prednosta doc.
dr. J. Lukes.
          (KETONE BODIES)   (URINE)

SOLC, J.; KRAFTOVA, I.,technicka spoluprace; KOSTKOVA, E.,technicka spoluprace.

Ketosis in fasting in children. Cesk pediat 18 no. 3:220-227 '63.

1. Detska klinika lekarske fakulty KU v Pizni, prednosta doc. dr. J. Lukes.
  (FASTING) (BLOOD SUGAR) (RESPIRATORY FUNCTION TESTS)
      (FATTY ACIDS) (ICE TONE BODIES) (ACIDOSIS)

SOLC, J.

Seminar on model technology. Chem prum 14 no.1:48 Ja'64.

1. Moravske chemicke zavody, n.p.

SOLC, J. Technicka spoluprace: KRAFTOVA, I.

Ketosis in febrile disease. I. Glycemia, pyruvic, acid, lactic
acid, alphaglutaric acid, nonesterified fatty acids and ketone-
mia in fever. Cesk. pediat. 19 no.7:577-584   Jl'64

1. Detska klinika lekarske fakulty KU [Karlovay university] v
Plzni; prednosta: doc. dr. J.Lukes.

SOIC, J.; JOZIFEK, A.; SOIC, Ivan

Simple evaluation of film X-ray dosimeters. Jemna mech
opt 9 no.4;120 '64.

ACCESSION NR: AP4035364   Z/0034/64/000/005/0337/0349

AUTHOR: Solc, Jan (Engineer)(Sholʹts, I.); Stanka, Karel (Doctor of engineering) (Stanʹka K.)

TITLE: The situation in the manufacture and testing of tools for extruding non-ferrous metals in the Czechoslovak SSR

SOURCE: Hutnicke listy, no. 5, 1964, 337-349

TOPIC TAGS: extruder, durability, stellite, extruder lining, hard alloy, ceramic, vertical press, horizontal press, articulated profile

ABSTRACT: The article discusses the prime importance of the durability of extruders, and three basic ways of prolonging their life; new materials and their working; the advantages and disadvantages of stellites; extruder linings of hard alloys and ceramic materials; the success of the Cr_3C_2 type hard alloys; and problems of extruders for articulated profiles. Separate sections deal with: the stresses on the different parts of extruders; the choice of materials for them; extruders with 1) conical plunger, 2) for vertical tube presses, with usually six alternating extruders, 3) for horizontal presses, 4) with ceramic linings.

Card 1/2

ACCESSION NR: AP4035364

5) for articulated profiles. The authors discuss at considerable length the results of practical shop tests of foreign and Czechoslovak material. Orig. art. has: 15 figures and 14 tables.

ASSOCIATION: Vyzkumny ustav hutnictvi zeleza, Prague (Experimental Institute for Ferrous Metallurgy)

SUBMITTED: 00

SUB CODE: MM

DATE ACQ: 20May64

NO REF SOV: 001

ENCL: 00

OTHER: 007

Card 2/2

SOLC,J.; BERKA,J.; TOMICEK,J.

Pressure syringe for angiography. Cesk. rentgen. 18 no.3:
214-215 My'64

1. Rentgenologicke oddeleni nemocnice v Semilech; Technometra,
n.p. v Semilech.

✳

SOIC, Josef, akad. arch.

Technical and economic conference of the Fasedcstav National
Enterprise, Prague, on the remodeling and modernization of
dwelling houses. Poz stavby 13 no.1:41 '65.

SOLC, Josef, akad. arch.

"Reconstruction and remodeling of buildings" by R.Hestan.
Reviewed by Josef Solc. Poz stavby 13 no.3:126 '65.

Solc, K

Z/008/60/000/02/014/015
E034/E416

AUTHORS: Jaroslav Nývlt and Karel Šolc

TITLE: Theory of Non-Electrolyte Solutions. Low Molecular
             Solutions

PERIODICAL: Chemické listy, 1960, Nr 2, pp 171-216

ABSTRACT: This long review is arranged as follows:
             Introduction (p 171) (Ref 335,7,336,92,153,229,230,
             236,275,74,102,60,96,336,148,110,275,245,346,82,58,18,97,
             74,75,154,220,109,277,207,118,120,148,60,158,334,254,95,
             124,125,26,336,237,85,329,304,344,151,117,270).
             1. Intermolecular forces (p 173): The structure and
             properties of solutions are a result of intermolecular
             forces in liquids which depend on the form and intensity
             of strong particle fields. The fields are formed either
             by strong attraction or strong repulsion. Both are
             dealt with. Forces of attraction: (Ref 336,209,210,95,
             154,174) - Orientation effect: Eq (1.1) and Ref 166 to
             168. Induction effect: Eq (1.2) and Ref 63,64,80.
             Dispersion effect: Eq (1.3) and Ref 209 to 213,192,154,
             219. Forces of repulsion: Eq (1.4) and (1.5) and

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Theory of Non-Electrolyte Solutions.   Low Molecular Solutions

Ref 336,44,131,328,140,243,145,212,142,54,240,241,307,
355.   Complete potential functions: Eq (1.6) to (1.26)
and Ref 154,278,200 to 203,188,324,341,336,111,170,297,
154,18,127,47,340,9,10,114,242,217,352,156,327,246.
Fig 1: Rigid sphere model.   Fig 2:   Point centre
repulsion model;   Fig 3:   Right-angle potential.
Fig 4:   Sutherland potential.   Fig 5:   Lennard-Jones
potential.   Fig 6:   Original Buckingham potential.
Fig 7:   Corrected Buckingham potential.
2.   Thermodynamic description of solutions (p 178):
Eq (2.1) to (2.17) and Ref 248,277,95,148,95,73,124.
2.1 Ideal solutions (p 180):   Eq (2.18) to (2.28) and
Ref 206,207,254,287,358,157,205,70,119,122.
2.2 Non-ideal solutions: Eq (2.29) to (2.47) and
Ref 204,158,73,124 to 126,288 to 290,336,95,318,206,
315,319,133,148,267,50,221,195,197,118,228,225,3,4,119,
121,123,365.   Fig 8:   Graphic determination of partial
molar volumes of dimensions $\overline{AC} = \overline{X}_2$, $\overline{BD} = \overline{X}_1$.

Card 2/11   Fig 9: Concentration dependence of additive function

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E034/E416

Theory of Non-Electrolyte Solutions.   Low Molecular Solutions

for benzene-cyclohexane mixtures. Fig 10: Concentration
dependence of additive function for benzene-methanol
mixtures.   Fig 11: Concentration dependence of
additive function for chloroform-ethanol-mixtures.
3.   Thermodynamic theory of solutions.
3.1 Dolezalek chemical theory (p 183): Eq (3.1) to (3.4)
and Ref 65,247,148,66,148,357,336,137,148,81,343.
3.2 Physical theory (p 184): Eq (3.5) to (3.14) and
Ref 350,85,95,336,351,28,29,146,194 to 198,33,148,199,148.
3.3 Theory of regular solutions (p 185): Eq (3.15) to
(3.42) and Ref 138,139,141,143,145,148,149,322,346,316,
317,68,315,319,32,367,5,6,330,331,258,321,95,2,360,
33,148,69,326,366.
4.   Structure and statistical description of liquids
(p 188): Ref 335,336,190,336,103,67,190,95,61,62,169,
239,368,145,27.   Fig 12: Typical curves for X-ray
scattering. (a) gaseous state of aggregation;
(b) liquid state of aggregation; (c) crystalline
substances. Statistical description of set of particles -
Card 3/11   partition function (p 189). Eq (4.1) to (4.23) and

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Theory of Non-Electrolyte Solutions, Low Molecular Solutions

Ref 275,37,336,260,93,110,316,336,84,48.
5.   Theorem of corresponding states (p 191).
Eq (5.1) to (5.6) and Ref 261,262,148,263,293,362,158,298.
6.   Theory of conformal solutions (p 192): Eq (6.1) to
(6.12) and Ref 214,46,56,336,275,45,295,216,215,12.
7.   Lattice theory of solutions (p 193).   Ref 148.
7.1 Theory of one dimensional solutions: Ref 89,132,
173,171,281,282,347,116,160,187,337.
7.2 Rigorously regular solutions: Eq (7.1) to (7.5) and
Ref 336,71,346,110,148,106,120,104,106,110,320.   (a) Null
approximation: Eq (7.6) to (7.12) and Ref 107,110,104,
107,129,198,267.   (b) Quasichemical manipulation (first
approximation) and Bethe's method (Ref 110): Eq (7.13)
to (7.21) and Ref 250,110,104,303,30,105,257,325.
(c) Higher approximations and Kirkwood's method of
moments: Eq (7.22) to (7.26) and Ref 110,112,113,180,
306,31,52,180,353,14,134,135,136,159,171,172,191,193,
256,356,57,115,108,162 to 164.   (d) Effect of molecular
orientation: Ref 345,252,13,15,16,21,22,336.
Card 4/11   7.3 Cellular theory (p 197): Eq (7.28) to (7.54) and

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Theory of Non-Electrolyte Solutions. Low Molecular Solutions

Ref 291,89,101,201,325,18,51,275,77,78,202,17,19,59,
98,101,130,275,292,341,200,181,275,294,363,150,154,
278,359,203,34,299,226,227,279,283,285,295,145,218,148,
86 to 88,72,265,18,280,181,34,53,79,90,91,155,175,176,
235,255,259,299,339,354,36,55,99,20,4,173,276,338,266,
272,279,283,296,308,309,311 to 313. Fig 13: Scheme for
derivation of potential energy in a cellular model.
Fig 14: Scheme of cell for rigid sphere model.
8.   Average potential model (p 202): Ref 274.
Conde approximation: Eq (8.1) to (8.17) and Ref 275.
Refined version: Eq (8.18) to (8.22) and Ref 275,272 to
274,322,189,223,224,253,269,24.
9.   Molecular distribution function method (p 205):
Eq (9.1) to (9.18) and Ref 244,38 to 41,98,100,151,152,
154,165,174,177,179,182 to 186,208,233,234,237,238,275,
301,302,305,314,332,185,35,314,48,310,1,161,
10. Globular molecules (p 207): Eq (10.1) to (10.3)
and Ref 275,262,298,300,8,295,128,296,342,11,348,349,264,
349.   Conclusion (p 208): The review is said to be an
Card 5/11   attempt to give a critical survey of the most important

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Theory of Non-Electrolyte Solutions.   Low Molecular Solutions

theories of solutions of low molecular non-polar
non-electrolytes. The approach is historical dealing
with the simplest theories first and finally with
markedly complicated ones developed in the last few
years. The review shows that the situation is
unsatisfactory at present; this results from the
complexity of the models of liquid solutions. Where
the theory has been worked out, only the simplest
molecules conform to theory (Ar, Ne, N_2, CO etc and in
certain cases C_6H_6, cyclohexane, CCl_4 etc) - the more
complicated systems are still interpreted on essentially
a semi-empirical basis. In the mutual comparison of
individual theories it is necessary to remember that the
simplest theories, despite their semi-empirical
character and insufficient molecular explanation of
parameters have, on the whole, the greatest practical
significance and, precisely because of their simplicity,
are partially utilized in the correlation of experimental
data and in the description of solution behaviour
Card 6/11   (except P-V-T relationships). On the other hand newer,

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more exact theories give a complete description of a
system, including volume behaviour, with
disproportionately better results.   However, because of
its complexity and mathematical difficulty it has been,
so far, only occasionally used in practice.   At the
present time, it has more of a theoretical significance
because it results in detailed relationships between
macroscopic and molecular properties and not only allows
description but explanation of the behaviour of solutions.
Symbols used: a   van der Waal's constant calculated for
1 mol;   a'   constant;   A   coefficient;   b   van der Waal's
constant calculated for 1 mol;   b   constant;   b   distance
from centre of molecule to centre of cell;   b'   constant;
c   molarity;   c,c'   constants; c_{rr} density of cohesive
energy;   d   average distance from centre of two molecules;
d   geometrical parameter for globular molecule;
e   Euler number;   E   molar internal energy;   f   fugacity;
f   energy parameter of theory of conformal solutions;
F   molar free energy;   g   dimensional parameter in theory
of conformal solutions; g_{k} statistical weight;

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$g(r)$ radial distribution function; G molar free enthalpy; G_{rs} integral; h Planck constant; H molar enthalpy; i designation of molecules; I intensity of light rays; j designation of molecules; j constant for Lennard-Jones potential; k Boltzmann constant; k constant for Lennard-Jones potential; K_H Henry constant; K_r equilibrium constant of solvation; L length; m number of peripheral atoms of globular molecule; n number of moles; n exponent in repulsing term; N Avogadro number; N number of molecules; p thermodynamic probability; P_r vapour tension of r-th component above solution; P_r^o vapour tension of pure r-th component at same temperature; P pressure; P_{int} internal pressure; $p(h)(r_1,...,r_N)$ specific distribution function; q_r effect molar volume; q_r partition function of molecular type r; Q molar partition function; r component designation; r distance; r^x length coordinate of minima of Lennard-Jones potential; r space coordinate; R gas constant;

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Theory of Non-Electrolyte Solutions. Low Molecular Solutions

$R^{(h)}(\underline{r}_1, \ldots, \underline{r}_N)$ generic distribution function;
s component designation; S molar entropy;
T absolute temperature; u molecular potential energy;
u^* energy coordinate of minima of Lennard-Jones potential;
$\underline{u}(r)$ potential function;
$\underline{u}(b)$ $z\underline{u}(b)$ = average potential energy of particle
at distance b from the cell centre;
U molar potential energy; v molecular volume (= V/N);
v_f free volume; V molar volume; x space rectangular
coordinate; x_r molar fraction of r-th component;
X extensive dimension; X^+ apparent molar properties;
X zX = number unhomogeneous pairs in lattice;
y rectangular space coordinate; z rectangular space
coordinate; z coordination number of lattice;
z_r effective volume fraction; α polarizibility;
α thermal expansibility; β parameter;
β isothermal compressibility; γ geometric lattice
factor; γ_r activity coefficient; Γ parameter;
δ_r solubility parameter; ε energy parameter;

Card 9/11 ϵ Bethe parameter; ϑ angle; Θ energy parameter;

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Theory of Non-Electrolyte Solutions.   Low Molecular Solutions

Θ polar coordinate; λ wave length; λ_r absolute
activity; μ dipole moment; μ_r chemical potential;
ν_0 basic frequency; Ξ large partition function;
Π osmotic pressure; Q molecular dimensional
parameter; $Q^{(h)}(r_1,\ldots,r_h)$ generic distribution
function in large canonical set; σ average spherical
molecular; φ_r volume fraction of r-th component;
Φ universal reducer of partition functions;
χ lattice potential energy allocated to one particle;
Ψ universal potential function in the theorem of
corresponding states; ω exchange energy; ∇ operator;
X without index dimension concerned with solution;
X_r concerned with pure r-th component; X_{ij} concerned
with molecular pair i-j; X_0 concerned with reference
substances; $\bar{X}_r$ partial molar dimension; $\bar{X}$ eccentricity
value; $\tilde{X}$ reductor parameter; $\langle X \rangle$ average interaction
parameters or reduced dimensional in solution;
X^M mixed function; X^E additive function;
X^0 in standard state; X^V evaporation value;

Card 10/11

SOLC,K.; ERDOS.E.

Absolute isothermal distillation method of determination of
osmotic pressure. Coll Cz Chem 29 no.1:24-35 Ja'64

1. Institute of Macromolecular Chemistry and Institute of
Physical Chemistry, Czechoslovak Academy of Sciences, Prague.

SOLC,K.

Analy-is of the mechanism of isothermal distillation. Coll Cs
Chem 29 no.1:36-55 Ja'64

1. Institute of Macromolecular Chemistry, Czechoslovak Academy
of Sciences, Prague.

SCLC, L.

SCLC, L.   Production of lard in the Polish People's Republic.   p. 377.
Vol. 7, no. 6, 1956.   PRUMYSL POTRAVIN.   Praha, Czechoslovakia.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

SOIC, L.

SCIENCE

Periodicals: CESKOSLOVENSKY CASOPIS PRO FYSIKU. Vol. 8, no. 6, 1958

SOIC, L. X-ray spectrograph for an exact control of the angle of crystal lattice planes. p. 739.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5,
                                                May 1959, Unclass.

COJC, Ladislav; HLAVACEK, Josef, tr.

Conference of higher school students working in the meat industry.
Prum potravin 16 no.2:95 F '65.

SOIC, Libor

Rudnice and Kostalov-Kalna horizons in the Lower Krkonose area.
Cas min geol 9 no. 1:69-71 '64.

1. Geologicky pruzkum, Trutnov.

CZECHOSLOVAKIA

SOLC, L.

Geological Institute (Geologicky pruzkum), Trutnov

Prague, Caso.is pro mineralogii a geologii, No 1, 1964, pp 69-71

"The Rudnice and Kost'alov-Kalna Zones in the Krkonose Piedmont."

SOLT, L.

International regulations for testing water turbines. Porocila Litostroj. r. 142.

STROJNISKI VESTNIK. (Fakulteta za elektrotehniko in strojnistvo Univerze v Ljubljani, Institut za turbostroje v Ljubljani, Drustvo strojnih inzenirjev in tehnikov IR Slovenije in Strojina industrija Slovenije)
Ljubljana, ugoslavia
Vol. 5, no. 4/5, Aug. 1959

Monthly list of Eastern European Accession Index (EEAI) LC vol. 8, No. 11
November 1959
Uncl.

SOLC, Leopold

Submerged bulb-type turbines for the Sava River. Stroj vest 6 no.1:
25-28 Ja '60.   (EEAI 10:5)
        (Slovenia--Turbines)

SOLC, Leopold

> Submerged bulb-type turbines; from first ideas to newest realizations
> (To be contd.)   Stroj vest 6 no.128-34 'a '60.   (EEAI 10:5)
>   (Turbines)

SOLC, Leopold

      Tubular turbines; from the first idea to the newest realizations.
      (To be contd.) Stroj vest 6 No.2:63-70 Mr '60.   (EEAI 9:10)
          (Turbines)

SOLC, Leopold

Tubular turbines; from the first idea to the newest realization. (Conclusion). Stroj vest 6 no.3:105-112 My '60.   (EEAI 10:1)

1. Titovi zavodi "Litostroj."
        (Turbines)

SOLC, Leopold, inz.

Role of engineers in the production of turbines. Stroj vest 9 no.1/2:38-40 Ap '63.

1. Litostroj, Ljubljana.

SOLC, Leopold, inz. projektant (Ljubljana, Dakoviceva 4/III)

Production of turbines in the Litostroj Works. Tehnika Jug 18 no.7:Supplement: Masinstvo 12 no.7:1292-1296a Jl'63.

1. Sef projektant za opremu hidroelektrana u "Litostroju", Ljubljana.

MEHLE, Albert, prof. ind.; SOLE, Leopold, ind.

Feeding air into a suction pipe. Stroj. vest 10 no. 1/2:
12-14 Ap '64.

1. Faculty of Machine Building, University of Ljubljana,
Ljubljana (for Strana). 2. Mitestroj, Ljubljana (for Sole).

SOLC, M.

Non-stable process of anodic oxygen separation in platinum. Coll
Cz Chem 26 no.7:1749-1755 Jl '61.

1. Institut fur anorganische Chemie, Tschechoslowakische Akademie
der Wissenschaften, Prag.

    (Platinum)   (Oxygen)

ŠOLC, M.

Czechoslovakia

Institute for Anorganic Chemistry, Czechoslovak
Academy of Sciences -- Prague

Collection of Czechoslovak Chemical Communi-
cations, No 11, 1962, pp 2621-2626

"Kinetics of the Hydration of Carbon Dioxyde to
Methane on a Nickel-Chrom(III)-Oxyde Catalyst."

SOLC, M.; REGNER, A.

Poisoning of a nickel-chromium (III)-oxide catalyst by hydrogen
sulfide. Coll C: Chem 28 no.1:159-172 Ja '63.

1. Institut fur anorganische Chemie, Tschechoslowakische Akademie
der Wissenschaften, Prag.

SOLC,M.: REGNER,A.

Poisoning of a nickel-chromium (III)-oxide catalyst by car-
bon disulfide. Coll Cz Chem 23 no.11:2849-2853   N'63.

1. Institut fur anorganische Chemie, Tsche⸗ ⸗slowakische
Akademie der Wissenschaften, Prag.

SOLC, Milos

Mechanism of nitric oxide oxidation to nitrogen dioxide. Chem
listy 57 no.7:673-687 Jl '63.

1. Ustav anorganicke chemie, Ceskoslovenska akademie ved,
Praha.

SOLC, M.; DVUR, V.

Structure and texture of nickel-chromium (III)-oxide
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1. Institute of Inorganic Chemistry, Czechoslovak Academy
of Sciences, Prague.

SOLC, M.

Contribution to the kinetics and mechanism of nitric oxide
oxidation. Coll Cz Chem 29 no.,9:2227-2230 S '64.

1. Institute of Inorganic Chemistry, Czechoslovak Academy of
Sciences, Prague.

SOLC, Milan

Use of differential calorimetry in the study of reaction
kinetics and mechanism in gaseous phase. Chem listy 58
no.5:509-516 My '64.

1. Institute of Inorganic Chemistry, Czechoslovak Academy
of Sciences, Prague.

CZECHOSLOVAKIA

SOLC, M.

Institute for Inorganic Chemistry, Czechoslovakian
Academy of Sciences, Prague.

Prague, Collection of Czechoslovak Chemical Communi-
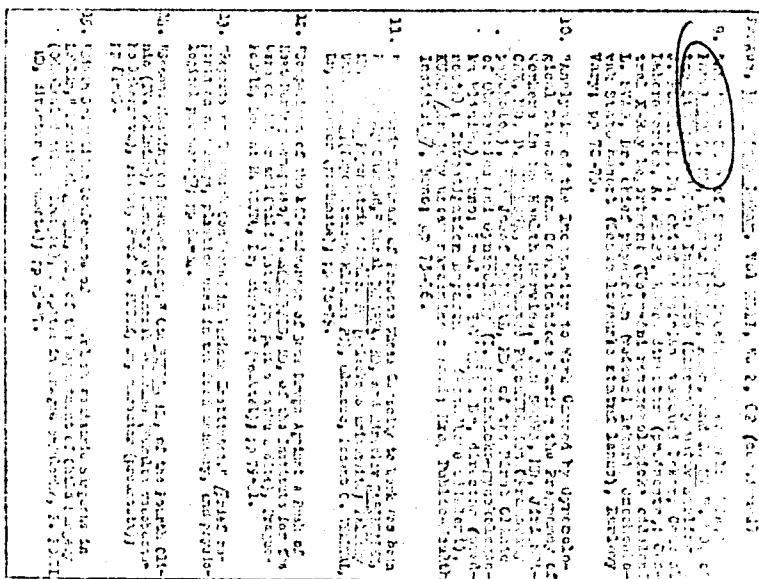cations, No 11, November 1965, pp 3798-3803.

"Possibility of the elementary course of the reaction
of nitric oxide.with oxygen."

COLC, M.

Kinetics of reaction of nitric oxide with oxygen. Pt. 1.
Coll Cz Chem 30 no.1:257-264 Ja '65.

1. Institut fur anorganische Chemie, Tschechoslowakische
Akademie der Wissenschaften, Prague. Submitted March 19, 1964.

SOLC, PAVEL

Prague, Casopis Lekaru Ceskych,
849 - 853

Abstract /Authors' English summary modified_7:   Occurrences of
milk tolerance or milk intolerance related to the occurrence
of bitter regurgitation , and the frequency of occurrence
of 218 healthy university students is discussed.   2 Figures, 1
Table, 13 Western, 4 Czech references.   (Manuscript received Nov
65).

1/1

SOLC, P.; MOKRY, Z.; Nursing Home (Lecebny Ustav) Moskva, Czecho-
slovak State Spa (Cs. St. Lazni), Karlovy Vary, Head (Vedouci)
Dr P. SOLC; Institute of Hygiene (Ustav Hygieny), Prague, Direc-
tor (Reditel) Prof Dr K. SYMON.

"Different Tolerance of Cow's Milk and Its Manifestations in
Gastrointestinal Diseases."

Abstract /Authors' English summary modified_7: Divisions of pa-
tients into different groups according to their tolerance of
fresh and sour milk is discussed. Relation between the intoler-
ance of fresh milk, patient's bitter regurgitation, and diarrhea
tendency is described. Sour milk causes diarhea, but not re-
gurgitation. 3 Figures, 3 Tables, 6 Western, 4 Czech references.
(Manuscript received Nov 65).

SOLC, R.

"Use of Methane Burners in the Machine Industry." p. 391, Praha, Vol. 4, no. 5, May 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

SO: Monthly List of East European Accessions, (LEAI), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

SOLC, R.; KARLIK, A.

SOLC, R.; KARLIK, A. Experiences with resistance welding of pipes.
p. 206.

Vol. 4, No. 5, May 1956.
STROJIRENSKA VYROBA.
TECHNOLOGY
Praha, Czechoslovakia

So: East European Accession, Vol. 6, No.3, March 1957

SOIC, R.

Clearing pipe ends.

P.217, (Strojirenska Vyroba) Vol. 5, no. 7, July, 1957, Praha, Czechoslovakia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

SOLC, R.

"Flux cleaning equipment." p. 116.

ZVARANIE. (Ministerstvo hutneho prumyslu a rudnych bani a Ministerstvo strojarenstva). Bratislava, Czechoslovakia, Vol. 8, No. 4, Apr. 1959.

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Uncla.

42534
Z/014/62/000/011/002/002
E192/E382

9.6000

AUTHOR: Šolc, Radomil, Engineer

TITLE: Transistor tester TESLA BM 372

PERIODICAL: Sdělovací technika, no. 11, 1962, 439 - 440

TEXT: This simple equipment permits measurement of the current gain α_E of transistors in common-emitter connection and the zero collector current I_{kOB} in common-base connection. The principal circuit is illustrated in Fig. 1, where an AC input signal is applied through a large resistance R_1 and the amplified signal is rectified at the output of the current transformer. The output current measured by the meter is directly proportional to α_E if the input current is constant; The meter can therefore be directly calibrated in units of α_E. The zero collector current is measured with the base grounded and the emitter open-circuited. The ranges for α_E are 0 - 100 and 0 - 500, while the two ranges for I_{kOb} are 0 - 100 µA and 0 - 500 µA. The

Card 1/2

SOLC, Radomil, inz.

Apparatus for measuring the h-parameters of transistors. Sdel tech
10 no.12:477-479 D '62.

SOLC, V.

Transportation of fish on rafts.

p. 8£ (CESKY LID) Vol. 43, no. 2, 1956,
Prahe., Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

Solc, V.

3

621.317.726 : 621.3.018.756

5047. Pulse voltmeters. Z. SOUPAL AND V. SOLC. *Slaboproudý Obzor*, 15, No. 1, 10-8 (1954)

The voltmeter is designed to measure periodic pulse trains and h.f. pulse-modulated waveforms having repetition frequencies > 100 c/s and amplitudes up to 1·2 V, the pulses being > 0·1 μsec. It consists of a rectifying diode and a bridge-connected cathode follower having an input resistance of 45 MΩ. It is shown analytically that the instrument's error is $\propto TR_i/\tau R_1$, where T is the period of the waveform, τ is the pulse length and R_i and R_1 are the diode internal resistance and its load, respectively. The error increases in the case of an h.f. pulse-modulated waveform. The accuracy of the instrument can be improved by employing an error-compensating circuit, which consists of two rectifying diodes separated by an amplifier. The performance of the voltmeter as a function of various variable parameters is illustrated by a number of theoretical and experimental curves.

R. S. SIDOROWICZ

LL

Scl.c, Z

Apparatus for measurement of electric conductivity of electrolyte solutions. Zdeněk Solc and Karel Čermák (Vysoká škola chem. technol., Pardubice, Czech.). *Chem. listy* 53, 817-8(1959).—Through the use of Wagner's auxiliary bridge, good shielding, and grounding the described app. has a sensitivity of $2 \times 10^{-10}\%$.   L. J. Urbách

SOLC, Z.

JAU (NB)

Applications of Toepler's method to the study of the crystallization diagrams in ternary systems; the completion of the diagram in the system $K_2O-P_2O_5-H_2O$. I. Mýl and Z. Šolc (Vysoká škola chem.-technol., Pardubice, Czech.). Collection Czechoslov. Chem. Commun. 25, 2414-18(1960) (in German).—The modification of the Toepler method for detg. the soly. of solids in liquids described previously (CA 54, 16117d) is applied to the study of ternary systems. From the exptl. detd. satn. temps. the equil. isotherms can be constructed. As an illustration the ternary diagram $K_2O-P_2O_5-H_2O$ is completed at temps. from 25 up to 50°.   E. Erdős

CERMAK, K.; SOLC, Zdenek

A simple device for measuring the thickness of thin films. Jemna mech opt 6 no.11:344 N '61.

1. Vysoka skola chemicko-technologicka, Pardubice.

L 43580-65   EWT(1)/EWT(m)/EPF(c)/EWP(j)/T/EWP(t)/EEC(b)-2/EWP(b)/EWA(c)
Pc-4/Pr-4/Pi-4   IJP(c)   JD/GG/RM

ACCESSION NR: AT5009582   Z/0000/62/000/000/0155/0157

AUTHOR: Kvapil, J. (Kvapil, Y.); Solc, Z. (Sholts, Z.)

TITLE: Growing single crystals of triglycine sulfate

SOURCE: Konference o monokrystalech. 4th, Turnov, 1961. Sbornik referatov. Turnov,
VUM, 1962, 155-157

TOPIC TAGS: triglycine sulfate crystal, crystal growth, single crystal

ABSTRACT: After reviewing previous work on the composition of the triglycine sulfate
solutions from which TGS crystals are grown, the present authors analyze the proportion
of sulfuric acid to glycine in such solutions and find that this need not be exactly 1:3. They
proved that TGS crystals grow in solutions varying in proportion from 1:2.5 to 1:3.5.
They also studied the effect of heat on crystal growth and found that overheating stabilizes
the saturation point, after which gradual cooling produces the first crystals at the lower
boundary of the metastable zone. An electronic source of time impulses was used to
establish the saturation point and to control the cooling rate. The many factors involved
in crystal growth are described, including saturation temperature, overheating temperature
and period, cooling rate, mechanical factors such as size and speed of mixing paddles,
and the several types of diffusion in the solutions used. In growing TGS crystals, it is

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best to employ core rods 7 cm long, cut with a thread saw along their longitudinal axis, with pinacoidal areas on their surface to produce somewhat cloudy crystals. Solutions employed had saturation points at 45-50C, which produced crystals weighing 450 grams as they cooled under automatic control in 3-liter crystallizers. Under precise schedules of declining temperature for each successive day, crystals with a density of 1.68 grew at a rate of 0.2 cm in diameter per day. Orig. art. has: 5 figures and 5 tables.

ASSOCIATION: VUM, Turnov; VSCHT, Pardubice

SUBMITTED: 00   ENCL: 00   SUB CODE: OC, SS

NO REF SOV: 003   OTHER: 015

Card 2/2

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Crystallization parameters of technically important
salts. Sbor VSChT Pardubice no.1:89-96 '63.

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